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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,491	06/12/2001	Frederick D. Busche	RSW920000174US1	5033
7590	03/02/2005		EXAMINER	
Gregory M. Doudnikoff IBM Corporation T81/503 PO Box 12195 Research Triangle Park, NC 27709			LASTRA, DANIEL	
			ART UNIT	PAPER NUMBER
			3622	
DATE MAILED: 03/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<i>R</i> <b>Office Action Summary</b>	Application No.	Applicant(s)
	09/879,491	BUSCHE, FREDERICK D.
	Examiner	Art Unit
	DANIEL LASTRA	3622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 June 2001.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-43 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>06/12/01</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

1. Claims 1-43 have been examined. Application 09/879,491 has a filing date 06/12/2001.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 38 recites a method claim that is dependent from a computer program product claim.

### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-43 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of: (1) whether the invention is within the technological arts; and (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to

promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, the instant claims fail to recite the use of any type of technology (e.g. computer system) within the recited steps of selecting a data set. Mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case the claimed method recites steps for selecting a data set do not produce a useful, concrete and tangible result and since the claimed invention as a whole is not within the technological arts, as explained above, claims 1-43 are deemed to be directed to non-statutory subject matter.

Accordingly, the Examiner found that the Applicant manipulated a set of abstract "data sets" to solve purely algorithmic problems in the abstract. A claim for manipulating "data sets" is probably even more abstract (and thereby less limited in practical application) than pure "mathematical algorithms" which the Supreme Court has held are per se nonstatutory. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 7-9, 12-15, 18, 21-23, 25-29, 32, 35, 36 and 38-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Menon et al (U.S. 5,537,488).

As per claim 1, Menon teaches:

A method of selecting data sets for use with a predictive algorithm based on data network geographical information, comprising:

generating a first distribution of a training data set (see column 20, lines 50-52) ;

generating a second distribution of a testing data set (see column 20, lines 60-63);

comparing the first distribution and the second distribution to identify a discrepancy between the first distribution and the second distribution with respect to data network geographical information (see column 20, lines 61-64); and

modifying selection of entries in one or more of the training data set and the testing data set based on the discrepancy between the first distribution and the second distribution (see column 21, lines 20-24).

As per claim 4, Menon teaches:

The method of claim 1, wherein comparing the first distribution and the second distribution includes comparing one or more of a mean, mode, and standard deviation of

the first distribution to one or more of a mean, mode, and standard deviation of the second distribution (see column 6, line 57 – column 7, line 20).

As per claim 7, Menon teaches:

The method of claim 1, wherein modifying selection of entries in one or more of the training data set and the testing data set includes generating recommendations for improving selection of entries in one or more of the training data set and the testing data set (see column 21, lines 20-24).

As per claim 8, Menon teaches:

The method of claim 1, wherein the training data set and the testing data set are selected from a customer information database (see column 5, lines 37-55).

As per claim 9, Menon teaches:

The method of claim 1, further comprising comparing at least one of the first distribution and the second distribution to a distribution of a customer database (see column 6, line 57 – column 7, line 21).

As per claim 12, Menon teaches:

The method of claim 1, wherein modifying selection of entries in one or more of the training data set and the testing data set includes changing one of a random selection algorithm and a seed value for a random selection algorithm (see column 2, lines 4-20).

As per claim 13, Menon teaches:

The method of claim 1, further comprising training a predictive algorithm using at least one of the training data set and the testing data set if the discrepancy is within a predetermined tolerance (see column 1, lines 30-35).

As per claim 14, Menon teaches:

The method of claim 13, wherein the predictive algorithm is a discovery based data mining algorithm (see column 1, lines 20-40).

As per claim 15, Menon teaches:

An apparatus for selecting data sets for use with a predictive algorithm based on data network geographical information, comprising:

a statistical engine; and

a comparison engine coupled to the statistical engine, wherein the statistical engine generates a first distribution of a training data set and a second distribution of a testing data set, the comparison engine compares the first distribution and the second distribution to identify a discrepancy between the first distribution and the second distribution with respect to data network geographical information, and modifies selection of entries in one or more of the training data set and the testing data set based on the discrepancy between the first distribution and the second distribution. The same rejection applied to claim 1 is applied to claim 15.

As per claim 18, Menon teaches:

The apparatus of claim 15, wherein the comparison engine compares the first distribution and the second distribution by comparing one or more of a mean, mode, and standard deviation of the first distribution to one or more of a mean, mode, and

standard deviation of the second distribution. The same rejection applied to claim 4 is applied to claim 18.

As per claim 21, Menon teaches:

The apparatus of claim 15, wherein the comparison engine modifies selection of entries in one or more of the training data set and the testing data set by generating recommendations for improving selection of entries in one or more of the training data set and the testing data set. The same rejection applied to claim 7 is applied to claim 21.

As per claim 22, Menon teaches:

The apparatus of claim 15, further comprising a training data set/testing data set selection device that selects the training data set and the testing data set from a customer information database. The same rejection applied to claim 8 is applied to claim 22.

As per claim 23, Menon teaches:

The apparatus of claim 15, wherein the comparison engine further compares at least one of the first distribution and the second distribution to a distribution of a customer database. The same rejection applied to claim 9 is applied to claim 23.

As per claim 25, Menon teaches:

The apparatus of claim 23, wherein the comparison engine compares at least one of the first distribution and the second distribution to a distribution of a customer database by:

generating a composite data set from the training data set and the testing data set; and

generating a composite distribution from the composite data set. The same rejection applied to claim 11 is applied to claim 25.

As per claim 26, Menon teaches:

The apparatus of claim 15, wherein the comparison engine modifies selection of entries in one or more of the training data set and the testing data set by changing one of a random selection algorithm and a seed value for a random selection algorithm. The same rejection applied to claim 12 is applied to claim 26.

As per claim 27, Menon teaches:

The apparatus of claim 15, further comprising a predictive algorithm device, wherein the predictive algorithm device is trained using at least one of the training data set and the testing data set if the discrepancy is within a predetermined tolerance. The same rejection applied to claim 13 is applied to claim 27.

As per claim 28, Menon teaches:

The apparatus of claim 27, wherein the predictive algorithm is a discovery based data mining algorithm. The same rejection applied to claim 14 is applied to claim 28.

As per claim 29, Menon teaches:

A computer program product in a computer readable medium for selecting data sets for use with a predictive algorithm based on data network geographical information, comprising:

first instructions for generating a first distribution of a training data set;

second instructions for generating a second distribution of a testing data set; third instructions for comparing the first distribution and the second distribution to identify a discrepancy between the first distribution and the second distribution with respect to data network geographical information; and fourth instructions for modifying selection of entries in one or more of the training data set and the testing data set based on the discrepancy between the first distribution and the second distribution. The same rejection applied to claim 1 is applied to claim 29.

As per claim 32, Menon teaches:

The computer program product of claim 29, wherein the third instructions for comparing the first distribution and the second distribution include instructions for comparing one or more of a mean, mode, and standard deviation of the first distribution to one or more of a mean, mode, and standard deviation of the second distribution. The same rejection applied to claim 4 is applied to claim 32.

As per claim 35, Menon teaches:

The computer program product of claim 29, wherein the fourth instructions for modifying selection of entries in one or more of the training data set and the testing data set include instructions for generating recommendations for improving selection of entries in one or more of the training data set and the testing data set. The same rejection applied to claim 7 is applied to claim 35.

As per claim 36, Menon teaches:

The computer program product of claim 29, further comprising fifth instructions for comparing at least one of the first distribution and the second distribution to a

distribution of a customer database. The same rejection applied to claim 9 is applied to claim 36.

As per claim 38, Menon teaches:

The method of claim 36, wherein the fifth instructions include:

instructions for generating a composite data set from the training data set and the testing data set; and instructions for generating a composite distribution from the composite data set. The same rejection applied to claim 11 is applied to claim 38.

As per claim 39, Menon teaches:

The computer program product of claim 29, wherein the fourth instructions for modifying selection of entries in one or more of the training data set and the testing data set include instructions for changing one of a random selection algorithm and a seed value for a random selection algorithm. The same rejection applied to claim 12 is applied to claim 39.

As per claim 40, Menon teaches:

The computer program product of claim 29, further comprising fifth instructions for training a predictive algorithm using at least one of the training data set and the testing data set if the discrepancy is within a predetermined tolerance. The same rejection applied to claim 13 is applied to claim 40.

As per claim 41, Menon teaches:

A method of predicting customer behavior based on data network geographical influences, comprising:

obtaining data network geographical information regarding a plurality of customers;

training a predictive algorithm using the data network geographical information; and

using the predictive algorithm to predict customer behavior based on the data network geographical information. The same rejection applied to claim 1 is applied to claim 41.

As per claim 42, Menon teaches:

An apparatus for predicting customer behavior based on data network geographical influences, comprising:

means for obtaining data network geographical information regarding a plurality of customers;

means for training a predictive algorithm using the data network geographical information; and

means for using the predictive algorithm to predict customer behavior based on the data network geographical information. The same rejection applied to claim 41 is applied to claim 42.

As per claim 43, Menon teaches:

A computer program product in a computer readable medium for predicting customer behavior based on data network geographical influences, comprising:

first instructions for obtaining data network geographical information regarding a plurality of customers;

second instructions for training a predictive algorithm using the data network geographical information; and

third instructions for using the predictive algorithm to predict customer behavior based on the data network geographical information. The same rejection applied to claim 41 is applied to claim 43.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 5, 6, 10, 11, 16, 17, 19, 20, 24, 30, 31, 33, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Menon et al (U.S. 5,537,488) in view of Glommen et al (U.S. 6,393,479).

As per claim 2, Menon teaches the method of claim 1, but fails to teach wherein the first distribution and the second distribution are distributions of a number of data network links from a customer data network geographical location to a web site data network geographical location. However, Glommen teaches an Internet traffic flow analysis system which monitor the travel of visitors through websites (see column 4, line 60 – column 5, line 10). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Menon would use the Glommen's Internet traffic tool to create a traffic flow testing and training data set which

would predict customers travel behavior through the Internet. Advertisers would use this Internet traffic flow tool to better target advertisements to the users.

As per claim 3, Menon teaches:

The method of claim 1, but fails to teach wherein the first distribution and the second distribution are distributions of a size of a click stream for arriving at a web site data network geographical location. However, the same rejection applied to claim 2 is applied to claim 3.

As per claim 5, Menon teaches:

The method of claim 1, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted data network geographical distance between a customer data network geographical location and a web site data network geographical locations. Menon teaches a weighted network data (see column 8, lines 14-20). Therefore, the same rejection applied to claim 2 is applied to claim 5.

As per claim 6, Menon teaches:

The method of claim 1, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted click stream for arriving at a web site data network geographical locations. The same rejection applied to claim 2 is applied to claim 6.

As per claim 10, Menon teaches:

The method of claim 1, but fails to teach wherein the first distribution and second distribution are frequency distributions of one or number of data network links between a customer geographical location and one or more web site data network geographical

locations, and size of a click stream for arriving at one or more web site data network geographical locations. However, the same rejection applied to claim 2 is applied to claim 10.

As per claim 11, Menon and Glommen teach:

The method of claim 9, wherein comparing at least one of the first distribution and the second distribution to a distribution of a customer database includes:

generating a composite data set from the training data set and the testing data set; and generating a composite distribution from the composite data set (see Menon column 40, lines 40-45).

As per claim 16, Menon teaches:

The apparatus of claim 15, but fails to teach wherein the first distribution and the second distribution are distributions of a number of data network links from a customer data network geographical location to a web site data network geographical location.

The same rejection applied to claim 2 is applied to claim 16.

As per claim 17, Menon teaches:

The apparatus of claim 15, but fails to teach wherein the first distribution and the second distribution are distributions of a size of a click stream to arrive at a web site data network geographical location. The same rejection applied to claim 3 is applied to claim 17.

As per claim 19, Menon teaches:

The apparatus of claim 15, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted number of data network links

between a customer data network geographical location and a web site data network geographical location. The same rejection applied to claim 5 is applied to claim 19.

As per claim 20, Menon teaches:

The apparatus of claim 15, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted size of a click stream to arrive at a web site data network geographical location. The same rejection applied to claim 6 is applied to claim 20.

As per claim 24, Menon teaches:

The apparatus of claim 15, but fails to teach wherein the first distribution and second distribution are frequency distributions of one of a number of data network links between a customer data network geographical location and one or more web site data network geographical locations, and a size of a click stream to arrive at one or more web site data network geographical locations. The same rejection applied to claim 10 is applied to claim 24.

As per claim 30, Menon teaches:

The computer program product of claim 29, but fails to teach wherein the first distribution and the second distribution are distributions of a number of data network links from a customer data network geographical location to a web site data network geographical location. The same rejection applied to claim 2 is applied to claim 30.

As per claim 31, Menon teaches:

The computer program product of claim 29, but fails to teach wherein the first distribution and the second distribution are distributions of a size of a click stream to

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arrive at a web site data network geographical location. The same rejection applied to claim 3 is applied to claim 31.

As per claim 33, Menon teaches:

The computer program product of claim 29, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted number of data network links between a customer data network geographical location and a web site data network geographical location. The same rejection applied to claim 5 is applied to claim 33.

As per claim 34, Menon teaches:

The computer program product of claim 29, but fails to teach wherein the first distribution and the second distribution are distributions of a weighted size of a click stream to arrive at a web site data network geographical location. The same rejection applied to claim 6 is applied to claim 34.

As per claim 37, Menon teaches:

The computer program product of claim 29, but fails to teach wherein the first distribution and second distribution are frequency distributions of one or a number of data network links between a customer data network geographical location and one or more web site data

6 network geographical locations, and a size of a click stream to arrive at one or more web site data network geographical locations. The same rejection applied to claim 10 is applied to claim 37.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Davis teaches a method for tracking client interaction with a network resource.

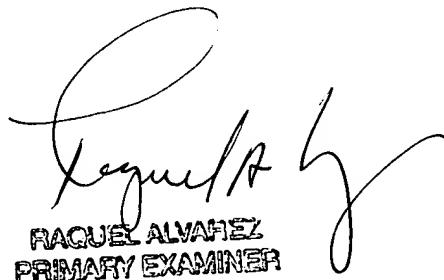
Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LASTRA whose telephone number is 703-306-5933. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ERIC W STAMBER can be reached on 703-305-8469. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

The Examiner is scheduled to move to the new Alexandria office in April 2005 (or later). The Alexandria phone number would be 571-272-6720 and RightFax number 571-273-6720. The examiner's supervisor, Eric W. Stamber, new Alexandria number would be 571-272-6724. The current numbers would be in service until the move.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL  
Daniel Lastra  
February 16, 2005



RAQUEL ALVAREZ  
PRIMARY EXAMINER